sion-free survival (PFS), on the cohort of 2000 patients with Her2 Ne mBC negative and a subanalysis of the populations of patients with triple negative of patients with Her2 Neu Negative, taking into account direct medical costs and social costs due to premature death, in a horizon of 5 years (discount rate 5%). **RESULTS:** The 40.35% of patients survived after 12 months using bevacizumab + paclitaxel, while only 35.20% did so with only administered paclitaxel. 59.6% of these patients were PFS with combination therapy, while 37.71% did with monotherapy. Combined therapy provides more effectiveness than monotherapy in terms of overall survival, progression-free survival (PFS) and therapeutic response. The incremental cost of bevacizumab + paclitaxel is $9,639 USD obeying the PFS difference in time between the two cohorts, and higher consumption on the combination versus monotherapy. For triple negative subpopulation, the ICER is $2295 USD while for the sub-population of HER 2 is $1854 USD. The ICER is compared against a threshold of 3 times GDP per capita in Mexico. The ICER is lower than the threshold, so it is cost-effective **CONCLUSIONS:** The combination of bevacizumab + paclitaxel, for all cases studied, represents a better alternative cost effective versus paclitaxel monotherapy.

PCN81

A COST-EFFECTIVENESS ANALYSIS OF ADJUVANT TRASTUZUMAB REGIMENS IN EARLY HER2/NEU-POSITIVE BREAST CANCER IN COLOMBIA

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OBJECTIVES: : One-year adjuvant trastuzumab therapy increases disease-free and overall survival in the adjuvant treatment of early HER2-positive breast cancer. This study aims to assess the long-term cost-effectiveness of adjuvant trastuzumab treatment in Colombia **METHODS:** A Markov health-state transition model was constructed to simulate the natural development of breast cancer in women with HER2/neu-positive after 12 months of after trastuzumab adjuvant chemotherapy over a lifetime perspective with annual transition cycles. The model incorporated five broad health states (disease-free, local recurrence [LCR], distant recurrence [DCR], cardiac failure, death). Baseline event rates and 3-year relative risk (RR= 0.75) were derived from the HERA trial. Costs and utility weights were from the literature and were discounted by 3% annually **RESULTS:** On the basis of HERA data, the model results showed that the utilization of adjuvant trastuzumab treatment in early breast cancer can prolong 8.23 quality-adjusted life-years, compared with 7, 78 quality-adjusted life-years in the standard chemotherapy group. The incremental cost-effectiveness ratio was US$134,581. Results are moderately sensitive to variation of relative risk, cost and number of cycles of trastuzumab and less sensitive to breast cancer survival rates and variations in cardiac toxicity **CONCLUSIONS:** The results suggest that the 1-year adjuvant trastuzumab treatment is not cost-effective in Colombia. Both clinical and economic benefits were not superior for the 1-year adjuvant trastuzumab treatment group compared with the standard adjuvant chemotherapy group

PCN82

COST-EFFECTIVENESS ANALYSIS OF TRASTUZUMAB + DOCETAXEL VERSUS DOCETAXEL ALONE IN THE TREATMENT OF HER2+ METASTATIC BREAST CANCER

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OBJECTIVES: To investigate the cost-effectiveness of the addition of trastuzumab in a docetaxel monotherapy for women with HER2+ metastatic breast cancer (MBC) in the Greek healthcare setting. **METHODS:** A 3-state model was constructed to simulate progression of the disease and overall quality adjusted survival for patients receiving trastuzumab and docetaxel (T+D) or docetaxel alone (D). The model ran on 1-month cycles and simulated the progress of patients over a total period of 12 years. Data on effectiveness were derived from a randomized controlled trial comparing the outcomes of six cycles of docetaxel 100 mg/m2 every 3 weeks, with or without trastuzumab 4 mg/kg loading dose followed by 2 mg/kg weekly until disease progression in women with an average age of 53 years, and an average body surface area of 1.7148m2. Costs were estimated from a third-party payer perspective (2011 Euros), discounted at 3%/annum. **RESULTS:** Patients in the T+D arm had a mean incremental gain of 0.729 years (95% CI: 0.10, 1.36) in overall survival and 0.449 (95% CI: 0.14 0.76) QALYs in quality-adjusted survival than those in the D arm (1.992 vs. 1.542). Taking into account the average incremental cost of 30,474.62€ (95% CI: 23,592.04, 38,195.93) in the T+D arm, the analysis reveals that the Incremental Cost Effectiveness Ratios (ICERs) are estimated at 41,811.13€ and 67,824.92 for every life year or QALY, respectively, gained with trastuzumab. The probabilistic sensitivity analysis showed that the ICERs produced by T+D were favourable at 17.1% of the Monte Carlo simulations at the 50,000€ and 35.7% at the 60,000€ threshold. **CONCLUSIONS:** The addition of trastuzumab to a first line treatment of HER2+ MBC with docetaxel represents an intervention with a high probability of being cost-effective from a third party-payer perspective

PCN83

COST-EFFECTIVENESS ANALYSIS OF COMBINATION THERAPIES INCLUDING CLASS II ANTICANCER DRUG FOR ADVANCED OR METASTATIC GASTRIC CANCER

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OBJECTIVES: This study was performed to evaluate the cost-effectiveness of three kinds of combination therapies including class II anti-cancer drugs in patients with advanced or metastatic gastric cancer. **METHODS:** A Markov model was simulated to assess the clinical and economic impact over 5 years from societal perspective. Life Years Gained(LYG) were measured as a clinical outcome. In the model, Docetaxel+cisplatin+5-FU(DCF), S-1+cisplatin(SP), Capecitabine+cisplatin(XP) were selected as 1st line chemotherapies. When the disease progressed in the second line therapy, Leucovorin + 5-FU + Irinotecan (FOLFIRI), it was assumed that best supportive care was performed. Transition probabilities and mortality were calculated by using adjusted parameter of "time to progression(TTP) or progression free survival(PFS), overall survival(OS)", which were obtained by indirect comparison (control group: 5-FU + Cisplatin). Both direct medical costs and direct non-medical costs were calculated. Costs and outcomes were discounted at an annual rate of 5% and sensitivity analysis was performed to evaluate uncertainty in the results. **RESULTS:** SP was dominated by XP because the total LYG per patient was higher and cost was lower for XP compared with SP. When DCF was compared with XP, incremental LYG was 0.045. However, incremental cost of DCF was also 10,719,975 KRW. Incremental cost-effectiveness ratio for DCF compared to XP was calculated over 200 million per LYG. The results of the sensitivity analysis showed no significant difference. **CONCLUSIONS:** Although a threshold of ICER is not fixed in Korea, GDP per capita is usually used for reference. In that case, it is considered that XP is cost-effective compared with DCF. Therefore, XP is the more cost-effective than DCF and SP. Further research should be carried out about cost-utility by using utility weight according to the state of gastric cancer.

PCN84

POPULATION VACCINATION PROGRAM FOR HUMAN PAPILLOMAVIRUS IN SPANISH GIRLS: AN EFFICIENCY STUDY

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OBJECTIVES: The incidence of cervical cancer in Spain is about 10/100,000 women per year, one of the lowest in Europe. Screening programs and the population vaccination against HPV are the two health care interventions aiming to reduce cancer development.The objective of this study is to analyse the efficiency of the population vaccination program in Spanish girls aged 11-14. **METHODS:** A simulation discrete event model with a horizon of 20 years, under the perspective of the National Health System, applied to the context of a high level of coverage Spanish region (La Rioja) was developed. The cytological results of the population screening program (14,760 women) and a review of literature on Spanish papers as well as official statistics were used in the model. Finally, the model took also into account the impact of some progression co-factors and the decrease on the immunity along time. **RESULTS:** According to the model outputs, from the 2725 girls of the first vaccination camping, 38.2% will not get infected by the HPV, 56.1% will clear the virus in a spontaneous way, 3.8% will either not progress or do not confirm the diagnoses, and, consequently, 1.9% would confirm a cervical lesion (29 LSIL and 23 HSIL), without considering the vaccination effect.A population vaccination program (that reached a 97.5% coverage) vs no vaccination at all will have an Incremental Cost Effectiveness Ratio of 43,657.8 euros per avoided pre-cancer cervical lesion. **CONCLUSIONS:** Although some primary preventative measures are convenient from a public health perspective, their final health and economic outcomes should be analysed. According to the results of this study, targeting only some risk populations should be considered as a way of increasing the low efficiency of the general population vaccination program.

PCN85

COST-EFFECTIVENESS OF A HUMAN PAPILLOMAVIRUS VACCINATION OF BOYS

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OBJECTIVES: To analyze cost-effectiveness of a human papillomavirus (HPV) vaccination of boys at age 12 against oropharyngeal carcinoma and anogenital warts. **METHODS:** We developed Markov decision model for a population of boys of age 12. We assessed the following outcomes: costs, gains in quality adjusted life years (QALYs), incremental cost-effectiveness ratio (ICER) for two options: vaccination with quadrivalent vaccine and no vaccination, and for the two currently-available vaccination choices: one with quadrivalent vaccine and one with bivalent vaccine. We employed Monte Carlo microsimulation in the analysis of results. **RESULTS:** Comparison of HPV vaccination of boys at age 12 vs. no vaccination resulted in ICER of 109,384 GBP per QALY. The outcome was sensitive to the vaccination costs, the probability of developing oropharyngeal carcinoma and anogenital warts, and proportion of oropharyngeal carcinoma attributable to infection with types HPV-16 and HPV-18. When comparing quadrivalent and bivalent vaccines, resulting ICER was 5,205 GPB per QALY. **CONCLUSIONS:** Our results indicate that HPV vaccination of boys with quadrivalent vaccine is at present deemed not cost-effective, i.e., ICER exceeds willingness-to-pay threshold of 30,000 GBP per QALY. Comparison of quadrivalent and bivalent vaccines revealed that the additional benefits of protection against anogenital warts would favour quadrivalent vaccine as the vaccination choice. An increase in incidence of HPV-positive oropharyngeal carcinoma and anogenital warts, and reduction of vaccination costs could substantially reduce ICER. Results of our study have potential healthcare policy implications for HPV national immunisation programs in the UK and other jurisdictions of developed countries.

PCN86

COST-EFFECTIVENESS OF RITUXIMAB IN FOLLICULAR LYMPHOMA FIRST LINE MAINTENANCE TREATMENT FROM PUBLIC PAYER PERSPECTIVE IN POLAND

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OBJECTIVES: To assess cost-effectiveness of rituximab (RTX) 1st line maintenance treatment compared to observation (O) in patients with follicular lymphoma (FL) from the Polish public payer perspective. **METHODS:** Efficacy and safety of rituximab 1st line maintenance therapy was assessed based on the results of systematic review and the PRIMA clinical trial. Direct medical costs were assessed based on the data regarding clinical practice of FL treatment and medical resources use gathered in 5 oncology centers. The following costs were calculated and included: drugs, drug administration, treatment-related adverse events, lymphoma relapse treatment, patient health monitoring. A life-time horizon (25 years) and public payer perspective were assumed. Costs were discounted at 5% and effects at 3.5%. A four health state Markov model (progression-free 1st line, progression-free subsequent line, progression and death) was used. Sensitivity analysis was performed testing the influence of various critical parameters such as utilities values, different costs categories, length of time horizon and patient's body surface. **RESULTS:** Introduction of 1st line maintenance therapy with RTX resulted in gain of 1.4 life years and 1.3 quality adjusted life years compared to observation. The total incremental costs were 60,707 PLN (1 EURO=3.96 PLN) which corresponded to an incremental cost-effectiveness ratio (ICER) of 43,348 PLN and an incremental cost-utility ratio (ICUR) of 47,357 PLN. Both values were below 110 000 PLN cost-effectiveness threshold assumed by the Polish public payer. The results were sensitive to discount rates, utilities values applied to the specific health states, length of time horizon. None of the tested scenarios resulted in values of ICUR and ICER exceeding the 110,000PLN threshold, providing evidence that rituximab treatment is cost-effective from public payer perspective. **CONCLUSIONS:** Rituximab in 1st line maintenance treatment of FL is an effective, safe and cost -effective therapeutic option.

PCN87

THE COST EFFECTIVENESS OF CETUXIMAB (ERBITUX) IN THE THIRD LINE TREATMENT OF METASTATIC COLORECTAL CANCER IN THE UK

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OBJECTIVES: To estimate the cost-effectiveness of cetuximab plus best supportive care (BSC) or cetuximab plus chemotherapy in patients with EGFR-expressing KRAS wild-type metastatic colorectal cancer who have failed at least two previous chemotherapeutic regimens in the metastatic setting from the UK NHS perspective. **METHODS:** A Markov model was developed to inform the cost-effectiveness (CE) of cetuximab plus BSC and cetuximab plus chemotherapy both versus BSC, and additionally the CE of cetuximab plus BSC and cetuximab plus chemotherapy both versus panitumumab plus BSC. Progression-free survival and overall survival data were collected from the following clinical trials: Karapetis et al. 2008, De Roock et al. 2007 and 2010, and Amado et al. 2008. These three clinical studies were relevant to perform indirect treatment comparisons. **RESULTS:** In the base-case analysis, treatments with cetuximab resulted in additional QALY as follows: cetuximab plus BSC versus BSC (0.303), cetuximab plus chemotherapy versus BSC (0.668), cetuximab plus BSC versus panitumumab plus BSC (0.193), and cetuximab plus chemotherapy versus panitumumab plus BSC (0.616). The base-case incremental cost effectiveness ratios (ICER) for cetuximab plus BSC and cetuximab plus chemotherapy, both compared to BSC are in the region of £50,000 per QALY. Compared to panitumumab plus BSC, the ICERs are below the NICE's £30,000 willingness-to-pay threshold. **CONCLUSIONS:** Weighting the QALYs gained with the NICE supplementary advice, suggests that cetuximab plus BSC or cetuximab plus chemotherapy is potentially a cost-effective use of NHS resources in this setting.

PCN88

ECONOMIC MODEL OF GRANULOCYTE-COLONY STIMULATING FACTOR (G-CSF) IN PRIMARY (PP) AND SECONDARY PROPHYLAXIS (SP) OF FEBRILE NEUTROPENIA (FN) IN NON-HODGKIN'S LYMPHOMA (NHL) PATIENTS UNDERGOING CHEMOTHERAPY IN FRANCE

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OBJECTIVES: To assess the cost-effectiveness in France of current G-CSF strategies as PP (from first cycle and before an FN event) and SP (after an FN event) for NHL patients receiving cytotoxic chemotherapy. **METHODS:** A Markov model was developed to calculate cost per FN events avoided, life-year saved (LYS), and quality adjusted life year (QALY); results were expressed as incremental cost-effectiveness ratios (ICERs). ICERs for 9 prophylaxis strategies were evaluated for three NHL chemotherapies (CHOP, CHOP-R and ACVBP): PP or SP with pegfilgrastim (Neulasta®), 6-day filgrastim (Neupogen®), 11-day filgrastim, 6-day lenograstim; and no prophylaxis. All strategies were compared to no prophylaxis. FN-related outcomes including FN-hospitalizations, FN-mortality and RDI were assessed using epidemiologic data, utility and chemotherapy-related FN-risk (21% for CHOP-21, 19% for RCHOP-21, 52% for ACVBP). Direct healthcare costs (G-CSF, administration, and FN-related events) were calculated from French Health insurance perspective. Costs and outcomes were discounted (4%/year). Based on international guidelines, PP should be given to high-risk patients (FN risk320%). **RESULTS:** In the high chemotherapy FN-risk population, pegfilgrastim was the most cost-effective G-CSF compared to SP-pegfilgratim. For instance, in patients undergoing ACVBP chemotherapy, ICERs with PP-pegfilgrastim were €2,019 per FN avoided, €10,194 per QALY gained and €8,632 per LYS versus SP-pegfilgrastim. In RCHOP-21 and without considering patient risk factors, if SP was considered instead of no prophylaxis, pegfilgrastim was the dominant G-CSF with ICERs of €2,112 per FN avoided, €14,703 per QALY gained and €11,940 per LYS versus no prophylaxis. **CONCLUSIONS:** With French settings, pegfilgrastim is the most cost-effective PP-G-CSF in high chemotherapy FN-risk patients versus SP-pegfilgrastim. After an FN event, pegfilgrastim is the most cost-effective SP-G-CSF versus no prophylaxis.

PCN89

PUBLIC HEALTH IMPACT OF QUADRIVALENT HPV TYPES 6, 11, 16, 18 VACCINE IN SAO PAULO, BRAZIL USING A TRANSMISSION DYNAMIC MODEL

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OBJECTIVES: To assess the public health impact of the quadrivalent (6,11,16,18) HPV vaccination program for São Paulo, Brazil. **METHODS:** A published mathematical model of the transmission dynamics of HPV infection and disease was adapted for São Paulo, Brazil. The model captured direct protective effects of vaccination and indirect effects (herd immunity). Model inputs were used from Brazil or the Latin/America region when available; otherwise, the default values in the original model were used. Maintaining current cervical cancer screening practices in Brazil, we evaluated two strategies: routine vaccination of females by age 12 (S1), and S1 combined with a temporary (5 years) female catch-up program for age 12–24 years (S2). The vaccine coverage rates were 85% for the routine and 95% by age 26 years for the catch-up vaccination programs. **RESULTS:** Comparing S1 to no vaccination, we estimated the cumulative percent (absolute cases) reduction in HPV 6/11/16/18-related incident genital warts-female, genital warts-male, cervical intraepithelial neoplasia (CIN) grade 1, CIN 2/3, cervical cancer cases, and cervical cancer deaths would be 78% (2,488,240), 67% (2,166,770), 68% (360,235), 65% (1,154,566), 47% (135,810), and 44% (39,147), respectively, over 100 years. Compared to S1, S2 provided additional cumulative percent (absolute cases) reduction of 9% (273,866), 11% (357,728), 7% (39,455), 7% (131,861), 7% (19,620), and 7% (6,009) in HPV 6/11/16/18-related incident genital warts-female, genital warts-male, CIN 1, CIN 2/3, cervical cancer cases, cervical cancer deaths. **CONCLUSIONS:** A prophylactic quadrivalent HPV vaccination program for females in Sao Paulo, Brazil can substantially reduce the incidence of cervical cancer, CIN, and genital warts. Female catch up vaccination may provide greater reductions in HPV-related diseases.

PCN90

COST-EFFECTIVENESS ANALYSIS OF ERLOTINIB VERSUS DOCETAXEL, PEMETREXED FOR SECOND-LINE TREATMENT OF ADVANCED NON-SMALL-CELL LUNG CANCER IN RUSSIA

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OBJECTIVES: Evaluate the cost-effectiveness analysis of erlotinib compared with docetaxel and pemetrexed in the second-line treatment of advanced non-small-cell-lung cancer (NSCLC) from a societal perspective in a Russian setting. **METHODS:** A Markov state transition model, based on two randomized phase III studies of erlotinib versus pemetrexed (HORTC) and pemetrexed versus docetaxel (Nasse H. et al 2005), was used to estimate total direct costs and quality-adjusted life years (QALYs). Data about cost of medical services and drugs are received from the price-list of out-patient medical aid in clinic MMA of I.M.Sechenov 01.02.2011, site minzdravsoc.ru//medicine and other accessible electronic resources. Costs, effectivenesses, utilities were discounted at 3%. Sensitivity analysis for key parameters in the model was conducted. **RESULTS:** Erlotinib was associated with a reduction in total costs (1 179 452 roubles versus 1 260 607 roubles and 1 769 367 roubles) and improved outcomes (total QALYs of 0.299 versus 0.248 and 0.271) in comparison with docetaxel and pemetrexed, respectively. Sensitivity analysis showed that major factors influencing cost-effectiveness and cost-utility ratios are survival gain, price of drugs, discount rates. **CONCLUSIONS:** In summary erlotinib is more cost-effective in comparison with docetaxel and pemetrexed for second-line treatment of advanced NSCLC due to lower adverse event and drug administration costs.

PCN91

PHARMACOECONOMIC ANALYSIS OF MCRC THERAPY WITH XELOX/FOLFOX4 REGIMES WITH BEVACIZUMAB OR CETUXIMAB AS THE FIRST LINE TREATMENT IN RUSSIA

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OBJECTIVES: This study is devoted on a comparative pharmacoeconomic analysis regimes XELOX + BV (bevacizumab) versus XELOX + CET (cetuximab) treatment (q3w); FOLFOX4 + BV and FOLFOX4 + CET (q2w) in the treatment of mCRC. The efficacy and safety of combined treatment regimens based on the data of international clinical trials. **METHODS:** Medical services were taken from the standards of medical care for patients with ÑRC and their costs were based on the price-list of Cancer Research Center. The cost analysis of anticancer and related drugs were based on the information about limit selling/import prices of vital and essential drugs. The main characteristics for Markov's model were: the Markov states (without progression, progression, death); a Markov's cycle (1 month); the time horizon (5 years). **RESULTS:** The cost of diagnosis was 16757 rubles, the medical services – 222802 rubles. The mCRC therapy as a first line by XELOX in combination with BV was 1029694 rubles or with CET–1899867 ruble; FOLFOX4 in combination with BV–1109402 rubles or with CET–2026917 rubles. The highest CER was for mode XELOX+CET-263870 rubles. The Markov's model shows that the COST/QALY and COST/LYG will above with each year, but in comparing groups with BV or CET therapy in the next 5 years, it was shown a tendency of the increase in cost per